

but their thickness, the Diameters of the Rings are reciprocally in a subduplicate proportion of the thicknesses of the plates. And this shews sufficiently that the Rings depend on both the surfaces of the Glafs. They depend on the convex surface because they are more luminous when that surface is quick-silvered over than when it is without Quick-silver. They depend also upon the concave surface, because without that surface a Speculum makes them not. They depend on both surfaces and on the distances between them, because their bigness is varied by varying only that distance. And this dependance is of the same kind with that which the Colours of thin plates have on the distance of the surfaces of those plates, because the bigness of the Rings and their proportion to one another, and the variation of their bigness arising from the variation of the thickness of the Glafs, and the orders of their Colours, is such as ought to result from the Propositions in the end of the third Part of this Book, derived from the the Phænomena of the Colours of thin plates set down in the first Part.

There are yet other Phænomena of these Rings of Colours but such as follow from the same Propositions, and therefore confirm both the truth of those Propositions, and the Analogy between these Rings and the Rings of Colours made by very thin plates. I shall subjoyn some of them.

O B S.

O B S. X.

When the beam of the Sun's Light was reflected back from the Speculum not directly to the Hole in the Window, but to a place a little distant from it, the common center of that Spot, and of all the Rings of Colours fell in the middle way between the beam of the incident Light, and the beam of the reflected Light, and by consequence in the center of the spherical concavity of the Speculum, whenever the Chart on which the Rings of Colours fell was placed at that center. And as the beam of reflected Light by inclining the Speculum receded more and more from the beam of incident Light and from the common center of the coloured Rings between them, those Rings grew bigger and bigger, and so also did the white round Spot, and new Rings of Colours emerged successively out of their common center, and the white Spot became a white Ring encompassing them; and the incident and reflected beams of Light always fell upon the opposite parts of this Ring, illuminating its perimeter like two mock Suns in the opposite parts of an Iris. So then the Diameter of this Ring, measured from the middle of its Light on one side to the middle of its Light on the other side, was always equal to the distance between the middle of the incident beam of Light, and the middle of the reflected beam measured at the Chart on which the Rings appeared: And the rays which formed this Ring were reflected by the Speculum in Angles equal to their Angles of incidence, and by consequence to their Angles of refraction at their entrance into the Glafs, but yet their Angles of

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